What is claimed is:

1. A vector suitable for use in a human comprising a polynucleotide, wherein said polynucleotide encodes an SCA-2 polypeptide.

2. The vector of claim 1, wherein said polynucleotide sequence encoding the SCA-2 polypeptide is SEQ ID NO:1.

3. The vector of claim 1, wherein the polynucleotide sequence has at least 70% identity to SEQ ID NO:1, said identity being calculated over the entire length of SEQ ID NO:1.

4. The vector of claim 1, wherein the polynucleotide sequence is identical to SEQ ID NO:1.

5. The vector of claim 1, wherein the SCA-2 polypeptide comprises an amino acid sequence of SEQ ID NO:2.

6. The vector of claim 5, wherein the SCA-2 polypeptide comprises an amino acid sequence that has at least 70% identity to SEQ ID NO:2, said identity being calculated over the entire length of SEQ ID NO:2.

7. A pharmaceutical composition suitable for use in a human comprising a biologically effective amount of an SCA-2 polynucleotide and an acceptable carrier.

8. The composition of claim 7, wherein the SCA-2 polynucleotide sequence is substantially similar to SEQ ID NO: 1.

9. A pharmaceutical composition suitable for use in a human comprising a biologically effective amount of an SCA-2 polypeptide and an acceptable carrier.

10. The composition of claim 9, wherein the SCA-2 polypeptide sequence is substantially similar to SEQ ID NO: 2.

11. A method of treating obesity comprising the administration of a pharmaceutical composition comprising a biologically effective amount of an SCA-2 polynucleotide and an acceptable carrier.

12. The method of claim 11, wherein the obesity comprises stress-induced obesity.

13. A method of treating obesity comprising the administration of a pharmaceutical composition comprising a biologically effective amount of an SCA-2 polypeptide and an acceptable carrier.

14. The method of claim 13, wherein the obesity comprises stress-induced obesity.

15. A method of treating the abnormal accumulation of body fat comprising the administration of a pharmaceutical composition comprising a biologically effective amount of a polynucleotide coding for the antisense sequence to SEQ. ID. No. 1, and an acceptable carrier.

16. A vector for the delivery of an SCA-2 therapeutic element to a human for the treatment of obesity wherein the vector comprises an expression cassette encoding the SCA-2 therapeutic.

17. The vector of claim 16, wherein the SCA-2 therapeutic is selected from the group consisting of an SCA-2 polynucleotide, an SCA-2 protein, and an SCA-2 protein fragment.

18. The vector of claim 17, wherein the expression cassette comprises one or more elements selected from the group consisting of a host cell origin of replication, suitable promoter

operably linked to a heterologous genetic element, internal ribosome entry site, splice donor site, splice acceptor site, suitable enhancer, PPT track, heterologous genetic element, a reporter gene, and an appropriate termination sequence.

19. The vector of claim 17 wherein the vector is selected from the group consisting of: retrovirus, lentivirus, adenovirus, herpes simplex viruses (HSV), cytomegalovirus (CMV), and adeno-associated virus (AAV).

20. A method for introducing an SCA-2 therapeutic into a human for the treatment of obesity, comprising transducing the cell with the vector of claim 19.

21. The method of claim 20, wherein the transduction occurs in vivo.

22. The method of claim 20, wherein the transduction occurs ex vivo.

23. The method of claim 20, wherein the cell is selected from the group consisting of muscle cells and adipocytes.

24. The cell of claim 21, wherein the cell comprises a neural cell.

25. A method for introducing an SCA-2 therapeutic into a human for the treatment of obesity, comprising transfecting a cell with a plasmid comprising an expression cassette encoding the SCA-2 therapeutic.

26. The method of claim 25, wherein the SCA-2 therapeutic is selected from the group consisting of an SCA-2 polynucleotide, an SCA-2 protein and an SCA-2 protein fragment.

27. The method of claim 25, wherein said transfection is carried out by a procedure selected from the group consisting of calcium phosphate transfection, DEAE-dextran mediated

transfection, transvection, microinjection, cationic lipid-mediated transfection, electroporation, scrape loading, ballistic introduction or infection, use of a gene gun, liposome and lipofectamine transfection

28. The method of claim 27, wherein the transfection occurs in vivo.

29. The method of claim 27, wherein the transfection occurs in vitro.

30. The method of claim 27, wherein the cell is selected from the group consisting of muscle, neural and adipose cells.

31. The method of claim 30, wherein the transfection takes place as part of an ex vivo procedure.